SEQUENCE LISTING

<110> SmithKline Biologicals S.A.

<120> Novel compounds

<130> BM45379

<160> 10

<170> FastSEQ for Windows Version 3.0

<210> 1
<211> 2277
<212> DNA
<213> *Neisseria meningitidis*

<400> 1

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gctgcgcgcc tcggcttcca cctgaaagcc tcgctgaccg accgcatcga tgccaatttg    2040
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<210> 2
<211> 758
<212> PRT
<213> *Neisseria meningitidis*

<400> 2

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Leu Glu Thr Val Thr Val Val Gly Lys Ser Arg Pro Arg Ala Thr Ser
        35                  40                  45
Gly Leu Leu His Thr Ser Thr Ala Ser Asp Lys Ile Ile Ser Gly Asp
    50                  55                  60
Thr Leu Arg Gln Lys Ala Val Asn Leu Gly Asp Ala Leu Asp Gly Val
65                  70                  75                  80
Pro Gly Ile His Ala Ser Gln Tyr Gly Gly Gly Ala Ser Ala Pro Val
                85                  90                  95
Ile Arg Gly Gln Thr Gly Arg Arg Ile Lys Val Leu Asn His His Gly
            100                 105                 110
Glu Thr Gly Asp Met Ala Asp Phe Ser Pro Asp His Ala Ile Met Val
        115                 120                 125
Asp Thr Ala Leu Ser Gln Gln Val Glu Ile Leu Arg Gly Pro Val Thr
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Leu Leu Tyr Ser Ser Gly Asn Val Ala Gly Leu Val Asp Val Ala Asp
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Gly Lys Ile Pro Glu Lys Met Pro Glu Asn Gly Val Ser Gly Glu Leu
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                165                 170                 175
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Ile Asn Ile Gly Leu Gly Lys Asn Phe Val Leu His Thr Glu Gly Leu
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Tyr Arg Lys Ser Gly Asp Tyr Ala Val Pro Arg Tyr Arg Asn Leu Lys
    210                 215                 220
Arg Leu Pro Asp Ser Pro Arg Arg Phe Ala Asn Gly Gln His Arg Ala
225                 230                 235                 240
Val Leu Gly Trp Arg Lys Arg Phe Tyr Arg Arg Thr Tyr Ser Asp Arg
                245                 250                 255
Arg Asp Gln Tyr Gly Leu Pro Ala His Ser His Glu Tyr Asp Asp Cys
            260                 265                 270
His Ala Asp Ile Ile Trp Gln Lys Ser Leu Ile Asn Lys Arg Tyr Leu
        275                 280                 285
Gln Leu Tyr Pro His Leu Leu Thr Glu Glu Asp Val Asp Tyr Asp Asn
    290                 295                 300
Pro Gly Leu Ser Cys Gly Phe His Asp Asp Asp Asp Ala His Ala His
305                 310                 315                 320
Ala His Asn Gly Lys Pro Trp Ile Asp Leu Arg Asn Lys Arg Tyr Glu
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Leu Arg Ala Glu Trp Lys Gln Pro Phe Pro Gly Phe Glu Ala Leu Arg
            340                 345                 350
Val His Leu Asn Arg Asn Asp Tyr His His Asp Glu Lys Ala Gly Asp
        355                 360                 365
Ala Val Glu Asn Phe Phe Asn Asn Gln Thr Gln Asn Ala Arg Ile Glu
    370                 375                 380
Leu Arg His Gln Pro Ile Gly Arg Leu Lys Gly Ser Trp Gly Val Gln
385                 390                 395                 400
Tyr Leu Gly Gln Lys Ser Ser Ala Leu Ser Ala Thr Ser Glu Ala Val
                405                 410                 415
Lys Gln Pro Met Leu Leu Asp Asn Lys Val Gln His Tyr Ser Phe Phe
            420                 425                 430
Gly Val Glu Gln Ala Asn Trp Asp Asn Phe Thr Leu Glu Gly Gly Val
        435                 440                 445
Arg Val Glu Lys Gln Lys Ala Ser Ile Arg Tyr Asp Lys Ala Leu Ile
    450                 455                 460
Asp Arg Glu Asn Tyr Tyr Lys Gln Pro Leu Pro Asp Leu Gly Ala His
465                 470                 475                 480
Arg Gln Thr Ala Arg Ser Phe Ala Leu Ser Gly Asn Trp Tyr Phe Thr
                485                 490                 495
Pro Gln His Lys Leu Ser Leu Thr Ala Ser His Gln Glu Arg Leu Pro
            500                 505                 510
Ser Thr Gln Glu Leu Tyr Ala His Gly Lys His Val Ala Thr Asn Thr
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        515                 520                 525
Phe Glu Val Gly Asn Lys His Leu Asn Lys Glu Arg Ser Asn Asn Ile
    530                 535                 540
Glu Leu Ala Leu Gly Tyr Glu Gly Asp Arg Trp Gln Tyr Asn Leu Ala
545                 550                 555                 560
Leu Tyr Arg Asn Arg Phe Gly Asn Tyr Ile Tyr Ala Gln Thr Leu Asn
                565                 570                 575
Asp Gly Arg Gly Pro Lys Ser Ile Glu Asp Asp Ser Glu Met Lys Leu
            580                 585                 590
Val Arg Tyr Asn Gln Ser Gly Ala Asp Phe Tyr Gly Ala Glu Gly Glu
        595                 600                 605
Ile Tyr Phe Lys Pro Thr Pro Arg Tyr Arg Ile Gly Val Ser Gly Asp
    610                 615                 620
Tyr Val Arg Gly Arg Leu Lys Asn Leu Pro Ser Leu Pro Gly Arg Glu
625                 630                 635                 640
Asp Ala Tyr Gly Asn Arg Pro Phe Ile Ala Gln Asp Asp Gln Asn Ala
                645                 650                 655
Pro Arg Val Pro Ala Ala Arg Leu Gly Phe His Leu Lys Ala Ser Leu
            660                 665                 670
Thr Asp Arg Ile Asp Ala Asn Leu Asp Tyr Tyr Arg Val Phe Ala Gln
        675                 680                 685
Asn Lys Leu Ala Arg Tyr Glu Thr Arg Thr Pro Gly His His Met Leu
    690                 695                 700
Asn Leu Gly Ala Asn Tyr Arg Arg Asn Thr Arg Tyr Gly Glu Trp Asn
705                 710                 715                 720
Trp Tyr Val Lys Ala Asp Asn Leu Leu Asn Gln Ser Val Tyr Ala His
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Ser Ser Phe Leu Ser Asp Thr Pro Gln Met Gly Arg Ser Phe Thr Gly
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Gly Val Asn Val Lys Phe
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<210> 3
<211> 2112
<212> DNA
<213> *Neisseria meningitidis*

<400> 3

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gtggtcggac agtccgacac cagcgtactc aaaggctaca tcaactacga cgaagccgcc     180
gttacccgca acggacagct catcaaagaa acgccgcaaa ccatcgatac gctcaatatc     240
cagaaaaaca aaaattacgg tacgaacgat ttgagttcca tcctcgaagg caatgccggc     300
atcgacgctg cctacgatat gcgcggcgaa agcattttcc tgcgcggttt tcaagccgat     360
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aacatcgagc gcgtggaaat cctgaaaggc ccgtcttccg tgctttacgg ccgcaccaac 480
ggcggcggcg tcatcaacat ggtcagcaaa tacgccaact tcaaacaaag ccgcaacatc 540
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aacaaaaacg tcgccatccg tctcaccggc gaagtcgggc gcgccaattc gttccgcagc 660
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aaatggcgtg cccaatggca gctcgcccac cgcacggcgg cgcaggattt tgatcatttc 960
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<210> 4
<211> 703
<212> PRT
<213> *Neisseria meningitidis*

<400> 4

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35 40 45
Val Leu Lys Gly Tyr Ile Asn Tyr Asp Glu Ala Ala Val Thr Arg Asn

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     50                  55                  60
Gly Gln Leu Ile Lys Glu Thr Pro Gln Thr Ile Asp Thr Leu Asn Ile
65                  70                  75                  80
Gln Lys Asn Lys Asn Tyr Gly Thr Asn Asp Leu Ser Ser Ile Leu Glu
                85                  90                  95
Gly Asn Ala Gly Ile Asp Ala Ala Tyr Asp Met Arg Gly Glu Ser Ile
            100                 105                 110
Phe Leu Arg Gly Phe Gln Ala Asp Ala Ser Asp Ile Tyr Arg Asp Gly
        115                 120                 125
Val Arg Glu Ser Gly Gln Val Arg Arg Ser Thr Ala Asn Ile Glu Arg
    130                 135                 140
Val Glu Ile Leu Lys Gly Pro Ser Ser Val Leu Tyr Gly Arg Thr Asn
145                 150                 155                 160
Gly Gly Gly Val Ile Asn Met Val Ser Lys Tyr Ala Asn Phe Lys Gln
                165                 170                 175
Ser Arg Asn Ile Gly Ala Val Tyr Gly Ser Trp Ala Asn Arg Ser Leu
            180                 185                 190
Asn Met Asp Ile Asn Glu Val Leu Asn Lys Asn Val Ala Ile Arg Leu
        195                 200                 205
Thr Gly Glu Val Gly Arg Ala Asn Ser Phe Arg Ser Gly Ile Asp Ser
    210                 215                 220
Lys Asn Val Met Val Ser Pro Ser Ile Thr Val Lys Leu Asp Asn Gly
225                 230                 235                 240
Leu Lys Trp Thr Gly Gln Tyr Thr Tyr Asp Asn Val Glu Arg Thr Pro
                245                 250                 255
Asp Arg Ser Pro Thr Lys Ser Val Tyr Asp Arg Phe Gly Leu Pro Tyr
            260                 265                 270
Arg Met Gly Phe Ala His Arg Asn Asp Phe Val Lys Asp Lys Leu Gln
        275                 280                 285
Val Trp Arg Ser Asp Leu Glu Tyr Ala Phe Asn Asp Lys Trp Arg Ala
    290                 295                 300
Gln Trp Gln Leu Ala His Arg Thr Ala Ala Gln Asp Phe Asp His Phe
305                 310                 315                 320
Tyr Ala Gly Ser Glu Asn Gly Asn Leu Ile Lys Arg Asn Tyr Ala Trp
                325                 330                 335
Gln Gln Thr Asp Asn Lys Thr Leu Ser Ser Asn Phe Thr Leu Asn Gly
            340                 345                 350
Asp Tyr Thr Ile Gly Arg Phe Glu Asn His Leu Thr Val Gly Met Asp
        355                 360                 365
Tyr Ser Arg Glu His Arg Asn Pro Thr Leu Gly Phe Arg Arg Asn Phe
    370                 375                 380
Thr Ala Ser Ile Asp Pro Tyr Asp Arg Ala Ser Arg Pro Ala Ser Gly
385                 390                 395                 400
Arg Leu Gln Arg Ile Leu Ala Gln Asp Arg His Lys Ala Asp Ser Tyr
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405 410 415
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420 425 430
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435 440 445
Leu Thr Gly Ser Ser Arg Gln Tyr Ser Gly His Ser Phe Ser Pro Asn
450 455 460
Ile Gly Ala Val Trp Asn Ile Asn Pro Val His Thr Leu Tyr Ala Ser
465 470 475 480
Tyr Asn Lys Ala Phe Ala Pro Tyr Gly Gly Arg Gly Gly Tyr Leu Ser
485 490 495
Ile Asn Thr Ser Ser Ser Ala Val Phe Asn Ala Asp Pro Glu Tyr Thr
500 505 510
Arg Gln Tyr Glu Thr Gly Val Lys Ser Ser Trp Leu Asp Asp Arg Leu
515 520 525
Ser Thr Thr Leu Ser Ala Tyr Gln Ile Glu Arg Phe Asn Ile Arg Tyr
530 535 540
Arg Pro Asp Glu Gln Asn Asp Pro Tyr Thr Trp Ala Val Gly Gly Lys
545 550 555 560
His Arg Ser Arg Gly Val Glu Leu Ser Ala Ile Gly Gln Ile Ile Pro
565 570 575
Lys Lys Leu Tyr Leu Arg Gly Ser Leu Gly Val Met Gln Ala Lys Val
580 585 590
Val Glu Asp Lys Lys Asn Pro Asp Arg Val Gly Ile His Leu Asn Asn
595 600 605
Thr Ser Asn Val Thr Gly Asn Leu Phe Phe Arg Tyr Thr Pro Thr Glu
610 615 620
Asn Leu Tyr Gly Glu Ile Gly Val Thr Gly Thr Gly Lys Arg Tyr Gly
625 630 635 640
Tyr Asn Ser Arg Asn Lys Glu Val Thr Thr Leu Pro Gly Phe Ala Arg
645 650 655
Val Asp Ala Met Leu Gly Trp Asn His Lys Asn Val Asn Val Thr Phe
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Ala Ala Ala Asn Leu Phe Asn Gln Lys Tyr Trp Arg Ser Asp Ser Met
675 680 685
Pro Gly Asn Pro Arg Gly Tyr Thr Ala Arg Val Asn Tyr Arg Phe
690 695 700

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<211> 378
<212> DNA
<213> *Neisseria meningitidis*

<400> 5

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ccccgcgccg ccgccgcact ccgcctcggt atgaccaaag accaagtcct gctcctgctc 180
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tcccgcaacg gcatcatcaa agaacgcagc aatctgaccg tctattttga aaacggcgta 300
ctcgtccgca ccgaaggcga cgtcctgcaa aacgctgccg aagcgctcaa agaccgccag 360
aacacagaca aaccataa 378

<210> 6
<211> 125
<212> PRT
<213> *Neisseria meningitidis*

<400> 6

Met Asn Lys Thr Leu Ile Leu Ala Leu Ser Ala Leu Leu Gly Leu Ala
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20 25 30
Val Ile Gln Gly Asn Glu Ile Asp Pro Arg Ala Ala Ala Ala Leu Arg
35 40 45
Leu Gly Met Thr Lys Asp Gln Val Leu Leu Leu Leu Gly Ser Pro Leu
50 55 60
Leu Arg Asp Ala Phe His Thr Glu Arg Trp Asp Tyr Thr Phe Asn Thr
65 70 75 80
Ser Arg Asn Gly Ile Ile Lys Glu Arg Ser Asn Leu Thr Val Tyr Phe
85 90 95
Glu Asn Gly Val Leu Val Arg Thr Glu Gly Asp Val Leu Gln Asn Ala
100 105 110
Ala Glu Ala Leu Lys Asp Arg Gln Asn Thr Asp Lys Pro
115 120 125

<210> 7
<211> 864
<212> DNA
<213> *Neisseria meningitidis*

<400> 7

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gagaaaaaag aaatcgtctt cggcacgacc gtcggcgact tcggcgatat ggtcaaagaa 180
caaatccaag ccgagctgga gaaaaaaggc tacaccgtca aactggtcga gtttaccgac 240
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ggcatgaagc tgaccgaagc cctgttccaa gaaccgagct ttgcctatgt caactggtct 720
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<210> 8
<211> 287
<212> PRT
<213> *Neisseria meningitidis*

<400> 8

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Ser Ala Ala Ala Asp Asn Gly Ala Glu Lys Lys Glu Ile Val Phe Gly
35 40 45
Thr Thr Val Gly Asp Phe Gly Asp Met Val Lys Glu Gln Ile Gln Ala
50 55 60
Glu Leu Glu Lys Lys Gly Tyr Thr Val Lys Leu Val Glu Phe Thr Asp
65 70 75 80
Tyr Val Arg Pro Asn Leu Ala Leu Ala Glu Gly Glu Leu Asp Ile Asn
85 90 95
Val Phe Gln His Lys Pro Tyr Leu Asp Asp Phe Lys Lys Glu His Asn
100 105 110
Leu Asp Ile Thr Glu Val Phe Gln Val Pro Thr Ala Pro Leu Gly Leu
115 120 125
Tyr Pro Gly Lys Leu Lys Ser Leu Glu Glu Val Lys Asp Gly Ser Thr
130 135 140
Val Ser Ala Pro Asn Asp Pro Ser Asn Phe Ala Arg Val Leu Val Met
145 150 155 160
Leu Asp Glu Leu Gly Trp Ile Lys Leu Lys Asp Gly Ile Asn Pro Leu
165 170 175
Thr Ala Ser Lys Ala Asp Ile Ala Glu Asn Leu Lys Asn Ile Lys Ile
180 185 190
Val Glu Leu Glu Ala Ala Gln Leu Pro Arg Ser Arg Ala Asp Val Asp
195 200 205
Phe Ala Val Val Asn Gly Asn Tyr Ala Ile Ser Ser Gly Met Lys Leu
210 215 220
Thr Glu Ala Leu Phe Gln Glu Pro Ser Phe Ala Tyr Val Asn Trp Ser

225 230 235 240
Ala Val Lys Thr Ala Asp Lys Asp Ser Gln Trp Leu Lys Asp Val Thr
245 250 255
Glu Ala Tyr Asn Ser Asp Ala Phe Lys Ala Tyr Ala His Lys Arg Phe
260 265 270
Glu Gly Tyr Lys Ser Pro Ala Ala Trp Asn Glu Gly Ala Ala Lys
275 280 285

<210> 9
<211> 966
<212> DNA
<213> *Neisseria meningitidis*

<400> 9
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accgcgcggg gcgatgccgt tgtgccgaag aatcccgaac gcgtcgccgt gtacgactgg 180
gcggcgttgg atacgctgac cgaattgggc gtgaatgtgg gcgcaaccac cgcgccgatg 240
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aaaaaccccg attggatttt catcatcgac cgtaccgccg ccatcgggca ggaagggccg 780
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caaatcatcg tcatgcctgc cgcgaactac attgtcgcgg gcggctcgcg gcagttgatt 900
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gagtag 966

<210> 10
<211> 321
<212> PRT
<213> *Neisseria meningitidis*

<400> 10
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20 25 30
Ser Ala Ala Thr Leu Thr Val Pro Thr Ala Arg Gly Asp Ala Val Val
35 40 45

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Pro Lys Asn Pro Glu Arg Val Ala Val Tyr Asp Trp Ala Ala Leu Asp
     50                  55                  60
Thr Leu Thr Glu Leu Gly Val Asn Val Gly Ala Thr Thr Ala Pro Met
65                  70                  75                  80
Arg Val Asp Tyr Leu Gln Pro Ala Phe Asp Lys Ala Ala Thr Val Gly
                85                  90                  95
Thr Leu Phe Glu Pro Asp Tyr Glu Ala Leu His Arg Tyr Asn Pro Gln
            100                 105                 110
Leu Val Ile Thr Gly Gly Pro Gly Ala Glu Ala Tyr Glu Gln Leu Ala
        115                 120                 125
Lys Asn Ala Thr Thr Ile Asp Leu Thr Val Asp Asn Gly Asn Ile Arg
    130                 135                 140
Thr Ser Gly Glu Lys Gln Met Glu Thr Leu Ala Arg Ile Phe Gly Lys
145                 150                 155                 160
Glu Ala Arg Ala Ala Glu Leu Lys Ala Gln Ile Asp Ala Leu Phe Ala
                165                 170                 175
Gln Thr Arg Glu Ala Ala Lys Gly Lys Gly Arg Gly Leu Val Leu Ser
            180                 185                 190
Val Thr Gly Asn Lys Val Ser Ala Phe Gly Thr Gln Ser Arg Leu Ala
        195                 200                 205
Ser Trp Ile His Gly Asp Ile Gly Leu Pro Pro Val Asp Glu Ser Leu
    210                 215                 220
Arg Asn Glu Gly His Gly Gln Pro Val Ser Phe Glu Tyr Ile Lys Glu
225                 230                 235                 240
Lys Asn Pro Asp Trp Ile Phe Ile Ile Asp Arg Thr Ala Ala Ile Gly
                245                 250                 255
Gln Glu Gly Pro Ala Ala Val Glu Val Leu Asp Asn Ala Leu Val Arg
            260                 265                 270
Gly Thr Asn Ala Trp Lys Arg Lys Gln Ile Ile Val Met Pro Ala Ala
        275                 280                 285
Asn Tyr Ile Val Ala Gly Gly Ser Arg Gln Leu Ile Gln Ala Ala Glu
    290                 295                 300
Gln Leu Lys Ala Ala Phe Glu Lys Ala Glu Pro Val Ala Ala Gly Lys
305                 310                 315                 320
Glu
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